

3.0 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

3.1 Effects Found Not Significant as Part of the EIR Process

The following issues were identified as potentially significant during the Notice of Preparation process but were determined not to be significant after further analysis while preparing the DEIR. A more detailed analysis related to why these issues have been determined not to be significant through the DEIR process is provided below:

- Air Quality and Climate Change (Section 3.1.1)
- Hydrology and Water Quality (Section 3.1.2)

3.1.1 Air Quality and Climate Change

This section evaluates impacts to air quality and climate change that would potentially occur as a result of implementation of the proposed project.

3.1.1.1 *Existing Conditions*

The proposed project is located within the San Diego Air Basin (SDAB), which covers all of San Diego County. The SDAB is bordered by the Pacific Ocean to the west, the South Coast Air Basin (SCAB) to the north, the Salton Sea Air Basin (SSAB) to the east, and the U.S.–Mexico border to the south.

Climate and Meteorology

San Diego has five distinct climate zones. The Greater Julian Area is located within the Interior Zone of the County, which is between 25 and 60 miles inland. Temperature inversions and land/sea breezes common along the County's coastal region are not experienced in the Julian area. Rather, the region's climate is desert influenced with lower humidity and a consistent daily wind pattern. Average low temperatures range from 28 °F to 55 °F. The coldest temperatures are typically recorded in December. Average high temperatures range from 51 °F to 84 °F, with the warmest temperatures occurring in August. Rainfall is heaviest in late winter to early spring, between January and March. Given its high elevation and predominate desert-influenced climate, high levels of air pollution, including urban smog, are not common in the Greater Julian Area.

Criteria Air Pollutants

The U.S. Environmental Protection Agency (EPA) and California Air Resources Board (ARB) have established ambient air quality standards (AAQS) for six criteria pollutants: ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, lead, and particulate matter (PM), which consists of PM less than 10 microns (PM10) and PM less than 2.5 microns (PM2.5). Although not yet regulated by federal air standards, toxic air contaminants (TACs) and greenhouse gases (GHGs) are also generated by vehicle exhaust and fossil fuel combustion. Within San Diego County, pollutants commonly discussed and analyzed due to attainment status concerns include ozone, CO, and PM (both PM10 and PM2.5). These criteria pollutants, as well as TACs and GHGs, are described below.

Ozone

Ozone, a colorless toxic gas, is the chief component of urban smog. Ozone enters the bloodstream and interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen. Ozone also damages vegetation by inhibiting its growth. Although ozone is not directly emitted, it forms in the atmosphere through a chemical reaction between reactive organic gases (ROG) and nitrogen oxide (NO_x) under sunlight. Although the Greater Julian Area is relatively smog-free, ozone is present in relatively high concentrations in other regions within the SDAB. Ozone is considered a regional pollutant; high levels often occur downwind of the emission source because of the length of time between when the ROG form and when they react with light to change to ozone.

Carbon Monoxide

CO, a colorless and odorless gas, interferes with the transfer of oxygen to the brain. It can cause dizziness and fatigue and can impair central nervous system functions. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. In urban areas, motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains emit CO. Vehicle exhaust releases most of the CO in urban areas and would be the primary source of CO in the proposed project area. CO is a nonreactive air pollutant that dissipates relatively quickly; so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor-vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. Since motor vehicles are the dominant source of CO emissions, CO hotspots are normally located near roads and freeways with high traffic volume. The highest CO concentrations measured in the SDAB typically are recorded during the winter.

Particulate Matter

PM refers to finely divided solids or liquids, such as soot, dust, aerosols, and mists. Suspended particulates aggravate chronic heart and lung disease problems, cause respiratory problems, and often transport toxic elements. Suspended particulates also absorb sunlight, producing haze and reducing visibility. PM₁₀ is generated by both rural and urban sources, including agricultural burning, disking of agricultural fields, industrial emissions, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere.

Similar to PM₁₀, PM_{2.5} is primarily the result of combustion in motor vehicles, particularly diesel engines, as well as industrial sources and residential/ agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM₁₀, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer.

Toxic Air Contaminants

Although AAQS exist for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or

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because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, the ARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another.

For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor, called a Hazard Index, is used to evaluate risk. In the early 1980s, the ARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

In August 1998, the ARB identified particulate emissions from diesel-fueled engines as TACs. In September 2000, the ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce diesel PM₁₀ emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identifies 14 measures that the ARB will implement over the next several years. Diesel powered equipment utilized during tree removal would be required to comply with applicable diesel control measures.

Greenhouse Gases

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). GHGs are both naturally occurring and artificial. Examples of GHGs that are produced both by natural processes and industry include carbon monoxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons [HFCs] and perfluorocarbons [PFCs]) and sulfur hexafluoride (SF₆). Use of heavy-duty equipment and vehicle trips made by employees for this proposed project will primarily generate CO₂, CH₄, and N₂O. These gases are discussed below.

The Intergovernmental Panel on Climate Change (IPCC) estimates that CO₂ accounts for more than 75% of all anthropogenic (i.e., human-made) GHG emissions. Approximately 75% of anthropogenic CO₂ emissions are the result of fossil fuel burning; approximately 25% are the result of land use change (Intergovernmental Panel on Climate Change 2007). Methane is the second-largest contributor of anthropogenic GHG emissions and results from growing rice, raising cattle, combustion, and mining coal (National Oceanic and Atmospheric Administration 2005). Nitrous oxide, while not as abundant as CO₂ or CH₄, is a powerful GHG. Sources of nitrous oxide include agricultural processes, nylon production, fuel-fired power plants, nitric acid production, and vehicle emissions.

To simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method to compare GHG emissions is the global warming potential methodology defined in the IPCC reference documents (Intergovernmental

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Panel on Climate Change 1996, 2001). The IPCC defines the global warming potential of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO₂ equivalent (CO₂e), which compare the gas in question to that of the same mass of CO₂ (CO₂ has a global warming potential of 1 by definition).

Table 3.1 lists the global warming potential of CO₂, CH₄, and N₂O; their lifetimes; and abundances in the atmosphere in parts per million (ppm).

Existing Air Quality Conditions

Existing air quality conditions in the project area can be characterized by monitoring data collected in the region. The EPA and ARB maintain an extensive network of monitoring stations throughout California. Table 3.2 presents pollutant concentrations measured at the Alpine-Victoria Drive and Watt and Escondido East Valley Parkway Stations for the past three years for which complete data are available (2007–2010). These stations were selected because they are the closest to the project area; there are no monitoring stations in the mountains of San Diego County. Table 3.2 indicates which pollutants are measured at each station because not all stations monitor for the same pollutants. Concentrations are typically measured in parts per million (ppm) or micrograms per cubic meter (µg/m³). As shown in Table 3.2, the monitoring stations have experienced violations of the state and federal ozone and PM standards.

Regional Attainment Status

Local monitoring data (Table 3.2) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS). The four designations are further defined as follows:

- **Nonattainment:** Assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- **Maintenance:** Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past, but are no longer in violation of that standard.
- **Attainment:** Assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- **Unclassified:** Assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Table 3.3 summarizes the attainment status of San Diego County with regard to the NAAQS and CAAQS.

Sensitive Receptors

Sensitive receptors are defined as locations where pollutant-sensitive members of the population may reside or where the presence of air pollutant emissions could adversely affect use of the land. The ARB has identified the following people as the most likely to be affected by air pollution: children younger than 14, people older than 65, athletes, and people with cardiovascular and

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chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder-care facilities, elementary schools, and parks.

Lands surrounding the project area support a variety of uses that range from rural residential landscapes to higher density development located in the urban fringe of Julian. Two schools, Julian Elementary and Julian Union High School, as well as several day care facilities are located approximately ¼ mile from and outside of the proposed project corridor. However, scattered residences are located throughout the project area and the DDD tree removal would occur within 500 feet from habitable structures and evacuation roadways, as defined in Section 1.2 *Project Description*.

Applicable Regulatory Requirements

The federal and state air quality management agencies of direct importance in the project area are the EPA and ARB, respectively. Within San Diego County, the San Diego County Air Pollution Control District (SDAPCD) has jurisdiction over local air quality. These agencies either have regulatory authority or are responsible for the development and implementation of programs and plans designed to reduce air pollution levels.

Criteria Pollutants

Federal

The federal Clean Air Act (CAA), promulgated in 1963 and amended twice thereafter, including the 1990 Clean Air Act Amendments (CAAA), establishes the framework for modern air pollution control. The act directs the EPA to establish NAAQS for the six criteria pollutants discussed above. The NAAQS are summarized in Table 3.4. Most standards have been set to protect public health. For some pollutants, standards have been based on values such as protection of crops, protection of materials, or avoidance of nuisance conditions.

The CAA requires states to submit a state implementation plan (SIP) for areas in nonattainment for NAAQS. The SIP, which is reviewed and approved by the EPA, must demonstrate how the federal standards will be achieved. Failing to submit a SIP or secure approval could lead to denial of federal funding and permits. In cases where an SIP is submitted but fails to demonstrate achievement of the NAAQS, the EPA is directed to prepare a federal implementation plan.

State

In California, the ARB is responsible for meeting the state requirements of the federal CAA, administering the California Clean Air Act (CCAA) and establishing the CAAQS.

The CCAA requires all air districts in the state to endeavor to meet the CAAQS established by the ARB as expeditiously as practicable but, unlike the federal CAA, does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than the NAAQS

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and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. The CAAQS and NAAQS are listed together in Table 3.4.

The ARB regulates mobile air pollution sources, such as motor vehicles, and is responsible for setting emission standards for vehicles sold in California and other sources, such as consumer products and certain off-road equipment. The ARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county levels. The CCAA of 1988 substantially added to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures.

The CCAA emphasizes the control of “indirect and area-wide sources” of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures (TCMs).

Local

As discussed above, under the CAA, the SDAPCD is required to develop an air quality plan for nonattainment criteria pollutants within the air district. The San Diego Regional Air Quality Strategy (RAQS) was initially adopted in 1991 and outlines SDAPCD’s plans and control measures designed to attain the state air quality standards for 1-hour ozone. The RAQS does not address the state air quality standards for PM₁₀ or PM_{2.5}. For the 8-hour ozone standard, the SDAPCD submitted their 8-hour Ozone Attainment Plan 2007 in May of 2007, calling for more reductions in volatile organic compound (VOC) and NO_x emissions.

The proposed project would be subject to the following SDAPCD rules. These rules have been adopted by the SDAPCD to reduce emissions throughout the district. Failure to comply with any applicable district rule would be a violation subject to district enforcement action.

Rule 50—Visible Emissions: Establishes limits to the opacity of emissions within the SDAPCD. The proposed Project is subject to Rule 50 (d) (1) and (6) and should not exceed the visible emission limitation.

Rule 51—Nuisance: Prohibits emissions which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause injury or damage to business or property.

Rule 52—Particulate Matter: Establishes limits to the discharge of any particulate matter from non-stationary sources.

Rule 54—Dust and Fumes: Establishes limits to the amount of dust or fume discharge into the atmosphere in any one hour.

Rule 55—Fugitive Dust Control: Sets restrictions on visible fugitive dust from construction and demolition projects.

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Greenhouse Gases and Climate Change

Federal Climate Change Policy

Although there is currently no federal overarching law or policy related to climate change or the regulation of GHGs, recent activity suggests that regulation may be forthcoming. Foremost among recent developments has been the U.S. Supreme Court's decision in *Massachusetts v. EPA*, the "Endangerment Finding," and "Cause or Contribute Finding," which is described below. Despite these findings, the future of GHG regulations at the federal level is still uncertain. EPA regulation may be pre-empted by congressional action should a cap and trade bill be passed prior to adoption of EPA regulation. The following summarizes recent legal cases, legislation, and policies related to climate change and GHG regulation at the federal level that are applicable to the proposed project.

Massachusetts et al. v. U.S. Environmental Protection Agency (2007)

Twelve U.S. states, including California, and cities, in conjunction with several environmental organizations, sued the EPA to regulate GHGs as a pollutant pursuant to the CAA. The court ruled that the plaintiffs had standing to sue, GHGs fit within the CAA's definition of a pollutant, and the EPA's reasons for not regulating GHGs were insufficiently grounded.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 mandates a host of actions that would aid in the reduction of GHG emissions. These actions include (but are not limited to): fuel economy standard of 35 miles per gallon (mpg) by 2020; improved energy efficiency in lighting and appliances; and investments in efficiency and renewable energy use.

Endangerment Finding (2009)

On December 7, 2009, the EPA administrator found that current and projected concentrations of CO₂, methane, nitrous oxide, HFCs, PFCs, and SF₆ threaten the public health and welfare of current and future generations. Additionally, the administrator found that combined emissions of CO₂, CH₄, N₂O, and HFCs from motor vehicles contribute to the atmospheric concentrations and thus to the threat of climate change. Although the endangerment finding in itself does not place requirements on industry, it was an important step in the EPA's process to develop regulation of GHGs.

President's Council on Environmental Quality Draft Guidance (2010)

On February 18, 2010, Nancy Sutley, chair of the President's Council on Environmental Quality (CEQ), issued a memorandum providing guidance on consideration of the effects of climate change and GHG emissions under NEPA. The draft guidance suggests that the effects of projects directly emitting GHGs in excess of 25,000 tons annually be considered in a qualitative and quantitative manner. The CEQ does not propose this reference as a threshold for determining significance, but as "a minimum standard for reporting emissions under the CAA." The draft guidance also recommends that the cumulative effects of climate change on the proposed project be evaluated. The draft guidance is still undergoing public comments and will not be effective until issued in final form. (Sutley 2010).

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State Climate Change Policy

A variety of legislation has been enacted in California relating to climate change, much of which sets aggressive goals for GHG reductions within the state. The following key legislation is applicable to the proposed project.

Executive Order S-3-05 (2005)

Under this Executive Order S-3-05, state agencies are ordered to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by 2020, and 3) 80% below the 1990 levels by 2050.

Assembly Bill 32: Global Warming Solutions Act (2006)

Assembly Bill 32 (AB 32) sets the same overall GHG emissions reduction goals as Executive Order S-3-05, while further mandating that the ARB create a plan (that includes market mechanisms) and implement rules to achieve "real, quantifiable, cost-effective reductions" of GHGs. AB 32 further directs state agencies and the newly created state Climate Action Team to identify discrete early action GHG reduction measures. These actions were adopted in early 2010 and relate to truck efficiency, port electrification, tire inflation, and reduction of PFCs, propellants, and sulfur hexafluoride.

Climate Change Scoping Plan (2006)

The ARB's Climate Change Scoping Plan prepared pursuant to AB 32 contains the main strategies California will use to reduce GHG from business-as-usual emissions projected for 2020 back to 1990 levels. As part of the scoping plan, the ARB and other agencies are undertaking regulatory rule making, culminating in rule adoption by January 1, 2011¹, for reducing GHG emissions to achieve the emissions cap by 2020.

State CEQA Guidelines (2010)

The State CEQA Guidelines require lead agencies to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Moreover, the guidelines emphasize the necessity to determine potential climate change effects of the project and propose mitigation as necessary. The guidelines confirm the discretion of lead agencies to determine appropriate significance thresholds, but require the preparation of an EIR if "there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with adopted regulations or requirements" (Section 15064.4).

California Cap-and-Trade (2010)

On December 16, 2010, ARB approved measures to enact a GHG Cap-and-Trade program for the state of California. The California Cap-and-Trade program will create a market-based system with an overall emissions limit for affected sectors. The program is currently proposed to regulate over 85% of California's emissions and will stagger compliance requirements according to the following

¹ As of the writing of this document, no rules or regulations have been formally adopted.

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schedule: 1) electricity generation and large industrial sources (2012); and 2) fuel combustion and transportation (2015).

Local Climate Change Policy

Greenhouse Gas Emission Inventory

The Energy Policy Initiatives Center at the University of San Diego School of Law has developed a GHG emission inventory for San Diego County. In 2006, San Diego County emitted 34 million metric tons (MMT) CO₂e, an increase of 5 MMT CO₂e (18%) over 1990 level emissions. Greenhouse gas emissions in San Diego County are primarily the result of transportation (46%), electricity (25%), natural gas (9%), and other sources. In total, 91% of County GHG emissions are associated with fuel use (Anders *et al.* 2008).

Interim Approach to Addressing Climate Change in CEQA Documents

In 2010 the County prepared an interim approach for addressing climate change in CEQA documents for use until the State of California issues clear direction. The interim approach gives guidance for deciding whether a climate change analysis is necessary for the project. The 900 metric ton screening criterion (CO₂ generated annually) referenced in the California Air Pollution Control Officers Association (CAPCOA) is used as a conservative criterion for determining which projects require further analysis and mitigation with regard to climate change. The interim approach describes general sizes of projects that would generally require climate change analysis and provides the minimum requirements for climate change reports.

3.1.1.2 Analysis of Project Effects and Determination as to Significance

Air Quality

This analysis is based on State CEQA Guidelines and the Guidelines for Determining Significance [for] Air Quality developed by the County of San Diego (2007d). The guidelines state that the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the determinations above. The County of San Diego Air Quality Guidelines do not outline quantitative significance thresholds. However, the County has established “Air Quality Impact Analysis (AQIA) Trigger Levels” in Regulation II, Rule 20.2 that can be used as a screening criterion for potential significance of air quality impacts. Emission thresholds are shown in Table 3.5.

Greenhouse Gases

A significant amount of GHG emissions is defined as 900 metric tons GHG per year², consistent with the standard adopted by the California Air Pollution Control Officers Association (CAPCOA) and outlined in the County’s July 22, 2010 Interim Climate Change Guideline (County of San Diego 2010b). In accordance with the CEQA guidelines and scientific consensus regarding the cumulative

² Per SDAPCD guidance, construction and one-time emissions of GHGs should be amortized over 30 years to obtain an annual GHG estimate.

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nature of GHGs³, this analysis includes a cumulative, rather than project-level, evaluation of climate change impacts (see Section 3.1.1.3).

For each of the following subsections, CEQA and the County Guidelines for the Determining Significance for relevant issues are presented with the impact analysis following each guideline.

³ Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes (see Table 1), GHGs tend to accumulate in the atmosphere. Therefore, GHG impacts are inherently cumulatively considerable.

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Guideline for the Determination of Significance:

The project would conflict with or obstruct implementation of the applicable air quality plan.

Analysis. A project is deemed inconsistent with air quality plans if it would result in population or employment growth that exceeds growth estimates included in the applicable air quality plan, which in turn would generate emissions not accounted for in the applicable air quality plan emissions budget. Because these emissions budgets are developed using growth projections outlined in the applicable local and regional planning documents, any conflicts with area general or transportation plans would constitute a conflict with the applicable air quality plan.

The proposed project would be limited in scope to the removal of DDD trees. The emissions associated with the proposed project would only be associated with removing the DDD trees, which involves temporary use of internal combustion engines. There would be no long-term operational emissions associated with DDD tree removal. As noted in Section 1.8 - *Growth Inducing Impacts*, the proposed project would not result in population growth and would not cause an increase in currently established population projections. Because the proposed project does not involve long-term energy use or vehicle generation and does not generate population growth, it would therefore not conflict with the County of San Diego General Plan and RAQS. Therefore, the proposed project would not conflict with the applicable air quality attainment plan, and impacts would be less than significant.

Guideline for the Determination of Significance:

The project would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Analysis.

DDD Tree Removal

Implementation of the proposed project would generate short-term emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. These emissions would result from heavy-duty equipment and vehicle travel. The project will require three separate tree removal contracts, each of which will include a maximum of four five-person crews operating concurrently. All contracts will have a 90 “working day limit” and will expire after approximately seven months.

During the DDD tree removal period, an estimated maximum of 20,000 DDD trees would be removed. A range of three tree removal options are considered in this analysis. Option 1 assumes all 20,000 DDD trees would be removed in the Greater Julian Area. This option represents the intent of the proposed project. Option 2 considers the possibility that funding would remain following DDD tree removals in the Greater Julian Area allowing for expansion of the treatment area; therefore, Option 2 assumes contracts 1 and 2 would operate in the Julian area, while the third contract would remove the remaining quota of trees in the Descanso and Pine Valley areas. Option 3 analyzes a potential but unrealistic scenario where property owners in the Julian area elect to not participate, thereby the treatment area and all 20,000 DDD tree removals would occur further

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south in the Descanso and Pine Valley areas. Option 3 is considered in this analysis due to the increased travel distances (approximately 360 miles round trip versus 180 miles round trip for the project under Option A) associated with hauling woody debris and chipped materials from staging sites in the Descanso and Pine Valley areas to the Colmac Energy Biomass-Fueled Power Plant in Mecca, California.

Table 3.6 through Table 3.8 present a summary of maximum daily emissions that would be generated by tree removal activities under Options 1, 2, and 3. It was assumed that work on all three contracts would overlap at some point, and work on contracts 1 and 2 and contracts 2 and 3 would also occur concurrently for a period of time. To ensure a conservative analysis, maximum daily emissions during these periods of overlap were estimated assuming all crew equipment would operate concurrently. Detailed information on emission modeling and quantification methods may be found in Appendix F.

As shown in Table 3.6 through Table 3.8, criteria pollutant emissions associated with construction of the proposed project would be below the applicable emission thresholds under all three analysis options. Moreover, in accordance with SDAPCD rules (Rules 50, 51, 52, 54 and 55), the project applicant would implement standard construction measures for controlling emissions from fugitive dust (see Chapter 1.0, Section 1.2.3.7 – *Dust Control During Construction*). Because proposed emissions would not exceed applicable thresholds and the project applicant would implement standard fugitive dust control measures pursuant to district rules, construction impacts on air quality would be less than significant.

Operations

The proposed project consists of removing DDD trees during a 270-day period. No operations or maintenance activities will follow removal of the DDD trees. Moreover, the proposed project would not affect vehicle miles traveled (VMT) or traffic speeds in the project area. As a result, no operational emissions or impacts would be associated with the proposed project.

Guideline for the Determination of Significance:

The project would expose sensitive receptors to substantial pollutant concentrations.

The County of San Diego Air Quality Guidelines establish analysis guidelines for sensitive receptors, including exposure to CO hotspots, TACs, and odors. The following criteria were used to determine whether the project would expose sensitive receptors to substantial pollutant concentrations (County of San Diego 2007d):

- *The project would place sensitive receptors near CO “hotspots” or create CO “hotspots” near sensitive receptors.⁴*
- *The project would result in exposure to TACs resulting in a maximum incremental cancer risk greater than one in one million without application of Toxics-Best Available Control*

⁴ The project is not a roadway project and will not create or place sensitive receptors near CO hotspots. Consequently, the project is not subject to this SDAPCD standard and no further analysis is required.

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Technology, or a health hazard index greater than one, and thus be deemed as having a potentially significant impact.

- *The project, which is not an agricultural, commercial or industrial activity subject to SDAPCD standards, as a result of implementation will either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons or the public.*

Analysis. Diesel particulate matter (DPM), which is classified as a carcinogenic toxic air contaminant by the ARB, is the primary TAC of concern with regard to health risks to sensitive receptors due to the operation of diesel powered equipment associated with the project. Although diesel-powered equipment would operate at the project site, the project would be temporary, anticipated to last between 90 and 270 work days and be at various site locations daily including designated wood debris staging sites. Given its limited duration and site location, the project would not be anticipated to result in an elevated cancer risk to exposed persons or exceed the County's TAC thresholds, which is based on a period of 70 years. As such, project-related toxic emission impacts resulting from tree removal activities would be less than significant.

Guideline for the Determination of Significance:

The project would create objectionable odors affecting a substantial number of people.

Analysis. Although diesel exhaust would generate minor odors, the project would be temporary and be at various site locations for DDD tree removal daily including designated wood debris staging sites. Moreover, odors generated by diesel exhaust are not likely to be noticeable beyond the immediate area of DDD tree removal activities and therefore the effects of objectionable odors are considered less than significant.

3.1.1.3 Cumulative Impact Analysis

Guideline for the Determination of Significance:

The project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Analysis.

Conflict with Applicable Air Quality Plans

Construction of the proposed project would result in criteria pollutant emissions increases; however, these emissions would be below the significance guidelines. According to the County of San Diego Air Quality Guidelines (County of San Diego 2007d), a project that conforms to the applicable General Plan and does not have emissions exceeding the significance guidelines will not create a cumulatively considerable net increase with respect to ozone since these emissions were accounted for in the RAQS. As discussed above, the proposed project was deemed consistent with

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the RAQS and would not result in a direct impact on air quality. Therefore, there is no significant cumulative impact for ozone, and the project's contribution is not cumulatively considerable.

Violate an Air Quality Standards

The SDAB is currently in nonattainment for NAAQS ozone as well as for CAAQS ozone, PM10, and PM2.5. Therefore, the emissions of concern within the SDAB are ozone precursors (ROG and NO_x), PM10, and PM2.5. According to the County of San Diego Air Quality Guidelines (County of San Diego 2007d), a cumulative impact may occur if either of the following two conditions is met:

- A project that has a significant direct impact on air quality with regard to project-level emissions of PM10, PM2.5, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.
- In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines identified in Table 3.5.

As discussed above in Guideline 2, the proposed project would have a less than significant direct impact on air quality. Few projects have been or are planned to be constructed in the Greater Julian Area that would use equipment such as that being used for removing DDD trees and implementation of the proposed project is not expected to overlap with other substation emissions sources. Consequently, the project's cumulative contribution to criteria pollutant emissions would be less than significant.

Expose Sensitive Receptors to Substantial Pollutant Concentrations

As discussed above, the proposed project would have a less than significant direct impact on sensitive receptors. Few projects have been or are planned to be constructed in the immediate vicinity of the project area and implementation of the proposed project is not expected to overlap with other substation emissions sources. Consequently, implementation of the proposed project would not contribute to a cumulative impact on sensitive receptors in conjunction with other emissions sources in the area.

Create Objectionable Odors

The proposed project would not contribute to any long-term operational cumulative impacts from odors. In addition, few projects have been or are planned to be constructed in the immediate vicinity of the project area. The project may generate temporary, localized odors from equipment during implementation, similar to any other construction project, but these emissions would not combine with other projects. Therefore, construction of the project would not contribute to a cumulative impact from odors.

Guideline for the Determination of Significance:

3.0 Environmental Effects Found Not To Be Significant

The project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Analysis. GHG emissions from tree removal activities are released during the combustion of gasoline or diesel fuel in vehicles and equipment. As discussed previously, increased emissions of GHGs can contribute to global warming and climate change.

Table 3.9 through Table 3.12 present the GHG emissions that would be generated as a result of project implementation under Options 1, 2, and 3. Emissions, which are expressed in metric tons of CO₂e, are presented for each source. Detailed information on emission modeling and quantification methods may be found in Appendix F.

As shown in the tables, 1,173 – 1,362 metric tons of CO₂e would be emitted over the 270 work day removal period, depending on the analysis option selected. Consistent with the County's interim GHG guidance, the sum of project-related GHG emissions were amortized over a 30-year period (County of San Diego 2010b). This results in an annual GHG emission rate of approximately 39 - 45 metric tons of CO₂e. The amortized 30-year average GHG emission rates are considerably lower than the interim 900 metric ton per year threshold used by the County of San Diego.

As described in Chapter 1.0, it is anticipated that 100% of the chipped wood will be sent to the Colmac Energy Biomass-Fueled Power Plant (Colmac Plant). The Colmac Plant converts energy stored within woody biomass to steam, which is then used to produce electricity. Electricity generated by the Colmac Plant is sold to Southern California Edison (SCE) and provided to residences and businesses within the SCE service area.

Removal of 20,000 DDD trees is expected to produce 43,200 cubic yards of dry wood chips. Based on the energy content of wood and the efficiency of the Colmac Plant, 43,200 cubic yards of wood chips will generate approximately 751,502 kilowatt-hours (kWh) of electricity. Biomass is considered biogenic, which means it is produced by natural sources and processes. Consistent with international reporting protocols, emissions generated from the combustion of biomass to generate electricity were not included in estimates of project-related GHG emissions, as this biogenic source is considered net-neutral with respect to carbon emissions (Intergovernmental Panel on Climate Change 2006). Power generated by the proposed project was therefore assumed to offset GHG emissions emitted by energy produced by traditional fossil fuel-derived sources. Based on the current carbon intensity of SCE's power supply mix, implementation of the proposed project will offset production of 215 metric tons of CO₂e (Table 3.12)

Because GHG emissions are lower than the County's interim GHG guidance, GHG impacts caused by emissions from the proposed project are considered to be less than significant, and the cumulative contribution of the project to climate change would be less than significant.

Guideline for the Determination of Significance:

The project would conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHGs.

3.0 Environmental Effects Found Not To Be Significant

Analysis. California has adopted several polices and regulations for the purpose of reducing GHG emissions. The most stringent of these is AB 32, which is designated to reduce statewide GHG emissions to 1990 levels by 2020. The AB 32 Scoping Plan outlines strategies the State will employ to achieve this goal. These strategies are geared towards sectors and activities that generate significant amounts of GHGs. For example, the majority of measures address building, energy, waste and wastewater generation, goods movement, on-road transportation, water usage, and high global warming potential gases. Activities associated with the project are not considered by the AB 32 Scoping Plan as having a high potential to emit GHGs. This statement is substantiated by the project-level emissions analysis, which demonstrates that the GHG emission rate is considerably lower than the interim 900 metric ton per year threshold used by the County. Consequently, none of the AB 32 reduction strategies are applicable to the project. Implementation of the project would therefore not conflict with implementation of AB 32, and this impact is considered less than significant.

3.1.1.4 *Significance of Impacts Prior to Mitigation*

Based upon the analysis presented in Section 3.1.1.2, the proposed project would have less than significant air quality impacts; therefore, no mitigation is required.

Based upon the analysis presented in Section 3.1.1.3, no significant air quality or climate change cumulative impacts were identified; therefore, no mitigation for cumulative impacts is required.

3.1.1.5 *Conclusion*

The proposed project would generate short term emissions of ROG, NO_x, CO, SO_x, PM₁₀, PM_{2.5}, and GHGs. These emissions would be emitted during a maximum 270-day tree removal period and would not exceed the CEQA or County significance guidelines. The project would not affect vehicle travel within the project area or result in long-term operational emissions. The project's contribution to cumulative emissions is not substantial. The proposed project would therefore have less than significant air quality and climate change impacts.

Table 3.1. Lifetimes and Global Warming Potentials of Several Greenhouse Gases

GHG	Global Warming Potential (100 years)	Lifetime (years)	2005 Atmospheric Abundance (ppm) ^a
Carbon Dioxide	1	50–200	379
Methane	21	9–15	1.7
Nitrous oxide	310	120	0.32

Sources: Intergovernmental Panel on Climate Change 1996, 2001:388–390, 2007.
^a 1 ppm is a mixing ratio unit indicating the concentration of a pollutant in ppm by volume.

3.0 Environmental Effects Found Not To Be Significant

Table 3.2. Pollutant Concentrations Measured at the Alpine-Victoria Drive and Watt and Escondido East Valley Parkway Monitoring Stations

Pollutant Standards	Year		
	2008	2009	2010
1-Hour Ozone (Alpine-Victoria Drive)			
Maximum 1-hour concentration (ppm)	0.139	0.119	0.105
1-hour California designation value	0.125	0.107	0.101
1-hour expected peak day concentration	0.118	0.114	0.110
Number of days standard exceeded ^a			
CAAQS 1-hour (>0.09 ppm)	13	6	4
8-Hour Ozone (Alpine-Victoria Drive)			
National maximum 8-hour concentration (ppm)	0.109	0.097	0.088
National second-highest 8-hour concentration (ppm)	0.103	0.094	0.084
State maximum 8-hour concentration (ppm)	0.110	0.098	0.088
State second-highest 8-hour concentration (ppm)	0.103	0.094	0.084
8-hour national designation value	0.092	0.089	0.088
8-hour California designation value	0.103	0.098	0.096
8-hour expected peak day concentration	0.103	0.098	0.097
Number of days standard exceeded ^a			
NAAQS 8-hour (>0.075 ppm)	31	22	12
CAAQS 8-hour (>0.070 ppm)	61	43	20
Carbon Monoxide (Escondido E Valley Parkway)			
National maximum 8-hour concentration (ppm) ^b	2.81	3.24	2.46
National second-highest 8-hour concentration (ppm) ^b	2.44	2.97	2.31
California maximum 8-hour concentration (ppm) ^c	2.81	3.24	2.46
California second-highest 8-hour concentration (ppm) ^c	2.44	2.97	2.31
Maximum 1-hour concentration (ppm)	-	-	-
Second-highest 1-hour concentration (ppm)	-	-	-
Number of days standard exceeded ^a			
NAAQS 8-hour (≥9 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0
PM10^d (Escondido E Valley Parkway)			
National ^b maximum 24-hour concentration (μg/m ³) ^b	82.0	73.0	42.0
National ^b second-highest 24-hour concentration (μg/m ³) ^b	45.0	47.0	35.0
California maximum 24-hour concentration (μg/m ³) ^c	84.0	74.0	43.0
California second-highest 24-hour concentration (μg/m ³) ^c	44.0	47.0	34.0
California annual average concentration μg/m ³) ^e	-	24.6	21.0
Number of days standard exceeded ^a			
NAAQS 24-hour (>150 μg/m ³) ^f	0	0	0
CAAQS 24-hour (>50 μg/m ³) ^f	1	1	0
PM2.5 (Escondido E Valley Parkway)			
National maximum 24-hour concentration (μg/m ³) ^b	44.0	78.3	48.4
National second-highest 24-hour concentration (μg/m ³) ^b	38.1	59.5	40.5
California maximum 24-hour concentration (μg/m ³) ^c	44.0	78.4	52.2
California second-highest 24-hour concentration (μg/m ³) ^c	44.0	60.6	33.3
National annual designation value (μg/m ³)	-	-	-
National annual average concentration (μg/m ³)	-	13.4	12.2
California annual designation value (μg/m ³)	13	13	12
California annual average concentration (μg/m ³) ^e	12.4	-	-
Number of days standard exceeded ^a			
NAAQS 24-hour (>35 μg/m ³) ^f	-	2	2

3.0 Environmental Effects Found Not To Be Significant

Pollutant Standards	Year		
	2008	2009	2010
CAAQS	= California ambient air quality standards.		
NAAQS	= national ambient air quality standards.		
ppm	= parts per million.		
□g/m ³	= micrograms per cubic meter.		
—	= insufficient data available to determine the value.		
a	An exceedance is not necessarily a violation.		
b	National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.		
c	State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California-approved samplers.		
d	Usually, measurements are collected every 6 days.		
e	State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.		
f	Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been truncated.		
Sources: California Air Resources Board 2010a			

Table 3.3. Federal and State Attainment Status of San Diego County

Pollutant	San Diego County	
	NAAQS	CAAQS
1-hour ozone	–	Serious nonattainment
8-hour ozone	Former Subpart 1a	Nonattainment
CO	Moderate maintenance ^a	Attainment
PM2.5	Attainment	Nonattainment
PM10	Attainment	Nonattainment
– = no applicable standard.		
^a Designation applies to a portion of the county.		
Sources: California Air Resources Board 2010b; U.S. Environmental Protection Agency 2010		

3.0 Environmental Effects Found Not To Be Significant

Table 3.4. Ambient Air Quality Standards Applicable in California

Pollutant	Symbol	Average Time	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Ozone	O ₃	1 hour	0.09	–	180	–	If exceeded	–
		8 hours	0.070	0.075	137	147	If exceeded	If fourth-highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor within an area
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
(Lake Tahoe only)		8 hours	6	–	7,000	–	If equaled or exceeded	–
Nitrogen dioxide	NO ₂	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.18	0.100	339	188	If exceeded	–
Sulfur dioxide	SO ₂	24 hours	0.04	–	105	–	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	0.075	655	196	If exceeded	–
Hydrogen sulfide	H ₂ S	1 hour	0.03	–	42	–	If equaled or exceeded	–
Vinyl chloride	C ₂ H ₃ Cl	24 hours	0.01	–	26	–	If equaled or exceeded	–
Inhalable particulate matter	PM10	Annual arithmetic mean	–	–	20	–	–	–
		24 hours	–	–	50	150	If exceeded	If exceeded on more than 1 day per year
	PM2.5	Annual arithmetic mean	–	–	12	15	–	If 3-year average from single or multiple community-oriented monitors is exceeded
		24 hours	–	–	–	35	–	If 3-year average of 98 th percentile at each population-oriented monitor within an area is exceeded
Sulfate particles	SO ₄	24 hours	–	–	25	–	If equaled or exceeded	–
Lead particles	Pb	Calendar quarter	–	–	–	1.5	–	If exceeded no more than 1 day per year
		30-day average	–	–	1.5	–	If equaled or exceeded	–
		Rolling 3-month average	–	–	–	0.15	If equaled or exceeded	Averaged over a rolling 3-month period

Source: California Air Resources Board 2010c

3.0 Environmental Effects Found Not To Be Significant

Table 3.5. Emission Thresholds

Air Contaminant	Emission Rate		
	(lb/hr)	(lb/day)	(tons/yr)
Carbon Monoxide (CO)	100	550	100
Oxides of Nitrogen (NO _x)	25	250	40
Particulate Matter (PM10)	---	100	15
Oxides of Sulfur (SO _x)	25	250	40
Lead and Lead Compounds (Pb)	---	3.2	0.6
Particulate Matter (PM2.5) ^a	---	55	10
Volatile Organic Compounds (VOC)/Reactive Organic Gases (ROG) ^b	---	75	13.7

^a The AQIA does not include trigger levels for PM2.5. The SDAQMD recommends using the EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005 as a threshold of significance. This threshold is also used by the South Coast Air Quality Management District (SCAQMD).

^b The AQIA does not include trigger levels for VOC/ROG. The SDAPCD recommends using thresholds established by the SCAQMD, which has similar federal and state attainment status as San Diego.

Source: County of San Diego 2007d

Table 3.6. Summary of DDD Tree Removal Emissions, Option 1 (pounds per day)

Source	ROG	NO _x	CO	SO _x	PM10	PM2.5
<i>Daily Emissions Generated per Contract (no overlap)^a</i>						
Tree Removal Equipment ^b	5.95	28.03	23.04	0.04	1.33	1.22
Site Equipment	2.11	23.49	7.80	0.03	0.80	0.74
Employee Commute ^c	0.50	0.25	3.98	0.01	1.05	0.19
Onsite Travel ^c	0.53	0.25	3.79	0.00	0.68	0.13
Haul Trucks ^d	0.82	10.24	3.95	0.02	0.46	0.39
Total	9.91	62.26	42.56	0.10	4.32	2.67
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No
<i>Daily Emissions Generated During Periods of Overlap: Contracts 1 and 2 and Contracts 2 and 3^e</i>						
Total	19.82	124.52	85.12	0.19	8.65	5.34
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No
<i>Emissions Generated During Periods of Overlap: Contracts 1, 2, and 3^f</i>						
Total	29.74	186.78	127.68	0.29	12.97	8.01
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No

^a Assumes all 20,000 DDD trees are removed in the Greater Julian Area

^b Assumes four five-persons crews.

^c Assumes eight five-person crews.

^d Round trip haul distance to co-generation facility assumed to be 180 miles.

^e Daily operating assumptions for site equipment and haul trucks were provided for an average work day and not by contract. However, during periods of contract overlap, it is anticipated that the intensity of tree removal, and thus hauling and site processing will increase. To ensure a conservative analysis, the amount of daily activity was therefore scaled by the number of contracts.

^f Assumes twelve five-person crews.

Refer to Appendix F for more information on modeling procedures and assumptions.

3.0 Environmental Effects Found Not To Be Significant

Table 3.7. Summary of DDD Tree Removal Emissions, Option 2 (pounds per day)

Source	ROG	NO _x	CO	SO _x	PM10	PM2.5
<i>Daily Emissions Generated per Contract in the Greater Julian Area (Contracts 1 and 2) (no overlap)</i>						
Tree Removal Equipment ^a	5.95	28.03	23.04	0.04	1.33	1.22
Site Equipment	2.11	23.49	7.80	0.03	0.80	0.74
Employee Commute ^b	0.50	0.25	3.98	0.01	1.05	0.19
Onsite Travel ^b	0.53	0.25	3.79	0.00	0.68	0.13
Haul Trucks ^c	0.82	10.24	3.95	0.02	0.46	0.39
Total	9.91	62.26	42.56	0.10	4.32	2.67
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No
<i>Daily Emissions Generated per Contract in the Descanso and Pine Valley Areas (Contract 3) (no overlap)</i>						
Tree Removal Equipment ^a	5.95	28.03	23.04	0.04	1.33	1.22
Site Equipment	2.11	23.49	7.80	0.03	0.80	0.74
Employee Commute ^b	0.50	0.25	3.98	0.01	1.05	0.19
Onsite Travel ^b	0.53	0.25	3.79	0.00	0.68	0.13
Haul Trucks ^d	1.55	19.22	7.42	0.03	0.87	0.73
Total	10.64	71.25	46.03	0.11	4.73	3.01
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No
<i>Daily Emissions Generated During Periods of Overlap: Contracts 1 and 2 ^e</i>						
Total	19.82	124.52	85.12	0.19	8.65	5.34
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No
<i>Daily Emissions Generated During Periods of Overlap: Contracts 2 and 3 ^e</i>						
Total	20.55	133.50	88.59	0.21	9.05	5.69
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No
<i>Emissions Generated During Periods of Overlap: Contracts 1, 2, and 3 ^f</i>						
Total	30.46	195.76	131.15	0.30	13.37	8.36
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No

^a Assumes four five-persons crews.

^b Assumes eight five-person crews.

^c Round trip haul distance to co-generation facility assumed to be 180 miles.

^d Round trip haul distance to co-generation facility assumed to be 360 miles.

^e Daily operating assumptions for site equipment and haul trucks were provided for an average work day and not by contract. However, during periods of contract overlap, it is anticipated that the intensity of tree removal, and thus hauling and site processing will increase. To ensure a conservative analysis, the amount of daily activity was therefore scaled by the number of contracts.

^f Assumes twelve five-person crews.

Refer to Appendix F for more information on modeling procedures and assumptions.

Table 3.8. Summary of DDD Tree Removal Emissions, Option 3 (pounds per day)

Source	ROG	NO _x	CO	SO _x	PM10	PM2.5
<i>Daily Emissions Generated per Contract (no overlap) ^a</i>						
Tree Removal Equipment ^b	5.95	28.03	23.04	0.04	1.33	1.22
Site Equipment	2.11	23.49	7.80	0.03	0.80	0.74
Employee Commute ^c	0.50	0.25	3.98	0.01	1.05	0.19
Onsite Travel ^c	0.53	0.25	3.79	0.00	0.68	0.13

3.0 Environmental Effects Found Not To Be Significant

Haul Trucks ^d	1.55	19.22	7.42	0.03	0.87	0.73
Total	10.64	71.25	46.03	0.11	4.73	3.01
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No
<i>Daily Emissions Generated During Periods of Overlap: Contracts 1 and 2 and Contracts 2 and 3 ^e</i>						
Total	21.27	142.49	92.06	0.22	9.46	6.03
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No
<i>Emissions Generated During Periods of Overlap: Contracts 1, 2, and 3 ^f</i>						
Total	31.91	213.74	138.09	0.33	14.18	9.04
SDAPCD Threshold	75	250	550	250	100	55
Significant	No	No	No	No	No	No

^a Assumes all 20,000 DDD trees are removed in the greater Descanso and Pine Valley Areas.
^b Assumes four five-persons crews.
^c Assumes eight five-person crews.
^d Round trip haul distance to co-generation facility assumed to be 360 miles.
^e Daily operating assumptions for site equipment and haul trucks were provided for an average work day and not by contract. However, during periods of contract overlap, it is anticipated that the intensity of tree removal, and thus hauling and site processing will increase. To ensure a conservative analysis, the amount of daily activity was therefore scaled by the number of contracts.
^f Assumes twelve five-person crews.
Refer to Appendix F for more information on modeling procedures and assumptions.

Table 3.9. Estimate of Project Greenhouse Gas Emissions, Option 1 (metric tons)

Source	Diesel Equipment			Gas Powered Trips		Total CO ₂ e
	CO ₂	CH ₄	N ₂ O	CO ₂	Other	Total
Tree Removal Equipment ^a	442	0.06	0.00	-	-	444
Site Equipment	390	0.02	0.00	-	-	390
Employee Commute	-	-	-	65	3	68
Onsite Travel	-	-	-	52	3	55
Haul Trucks ^b	213	0.01	0.01	-	-	215
Project Total	1,045	0.09	0.01	117	6	1,173
Amortized Total^c	35	0	0	4	0	39
San Diego County Interim Threshold	-	-	-	-	-	900

^a Removing the DDD trees would not release any carbon stored into the atmosphere because no trees will be burned onsite. In addition, because trees are dead or dying, they are not actively sequestering atmospheric CO₂. As a result, the project would not result in any loss of natural carbon sequestration sinks.

^b Assumes all 20,000 DDD trees are removed in the Greater Julian Area. Round trip haul distance to co-generation facility assumed to be 180 miles.

^c Sum of project-related emissions (1,173 metric tons) amortized over a 30-year period, consistent with the County's interim GHG guidance.

Table 3.10. Estimate of Project Greenhouse Gas Emissions, Option 2 (metric tons)

Source	Diesel Equipment			Gas Powered Trips		Total CO ₂ e
	CO ₂	CH ₄	N ₂ O	CO ₂	Other	Total
Tree Removal Equipment ^a	442	0.06	0.00	-	-	444
Site Equipment	390	0.02	0.00	-	-	390
Employee Commute	-	-	-	65	3	68
Onsite Travel	-	-	-	52	3	55

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Haul Trucks ^b	275	0.02	0.01	-	-	278
Project Total	1,107	0.10	0.01	117	6	1,236
Amortized Total^c	37	0	0	4	0	41
<i>San Diego County Interim Threshold</i>	-	-	-	-	-	900

^a Removing the DDD trees would not release any carbon stored into the atmosphere because no trees will be burned onsite. In addition, because trees are dead or dying, they are not actively sequestering atmospheric CO₂. As a result, the project would not result in any loss of natural carbon sequestration sinks.

^b Assumes Contracts 1 and 2 would operate in the Greater Julian Area, while Contract 3 would operate in the Descanso and Pine Valley Areas. Round trip haul distance to co-generation facility from the Julian Area assumed to be 180 miles. Round trip haul distance to the co-generation facility from the Descanso and Pine Valley Areas assumed to be 360 miles.

^c Sum of project-related emissions (1,236 metric tons) amortized over a 30-year period, consistent with the County's interim GHG guidance.

Table 3.11. Estimate of Project Greenhouse Gas Emissions, Option 3 (metric tons)

Source	Diesel Equipment			Gas Powered Trips		Total CO ₂ e
	CO ₂	CH ₄	N ₂ O	CO ₂	Other	Total
Tree Removal Equipment ^a	442	0.06	0.00	-	-	444
Site Equipment	390	0.02	0.00	-	-	390
Employee Commute	-	-	-	65	3	68
Onsite Travel	-	-	-	52	3	55
Haul Trucks ^b	400	0.02	0.01	-	-	403
Project Total	1,232	0.10	0.01	117	6	1,362
Amortized Total^c	41	0	0	4	0	45
<i>San Diego County Interim Threshold</i>	-	-	-	-	-	900

^a Removing the DDD trees would not release any carbon stored into the atmosphere because no trees will be burned onsite. In addition, because trees are dead or dying, they are not actively sequestering atmospheric CO₂. As a result, the project would not result in any loss of natural carbon sequestration sinks.

^b Assumes all 20,000 DDD trees are removed in the Descanso and Pine Valley Areas. Round trip haul distance to co-generation facility assumed to be 360 miles.

^c Sum of project-related emissions (1,362 metric tons) amortized over a 30-year period, consistent with the County's interim GHG guidance.

Table 3.12. Revised Estimate of Project Greenhouse Gas Emissions (metric tons CO₂e)

Source	Option 1	Option 2	Option 3
Project Total Emissions ^a	1,173	1,236	1,362
Avoided emissions from elimination of fossil fuel electricity generation ^b	215	215	215
Net Total Project Emissions	958	1,021	1,146
Amortized Total ^c	32	34	38
San Diego County Interim Threshold	900	900	900

^a See Tables 3.9 through 3.11

^b Based on the production of 751,502 kilowatt-hours of electricity, assuming current carbon intensities for SCE.

^c Sum of net project-related emissions amortized over a 30-year period; consistent with the County's interim GHG guidance.

3.1.2 Hydrology and Water Quality

This section evaluates impacts to hydrology and water quality that would potentially occur as a result of implementation of the proposed project.

3.1.2.1 Existing Conditions

The majority of the proposed project is located within the San Diego River Watershed; more specifically, the project is within the Inaja (Hydrologic Unit [HU] #907.41), Cuyamaca (HU #907.43), and Spencer (HU #907.42) subareas of the Boulder Creek Hydrologic Area (HA)(HU #7.41). Remaining portions of the project are within the Witch Creek (HU #905.54) subarea of the Santa Ysabel HA (HU #5.54) and an undefined subarea of the San Felipe HA (CSU Sacramento 2010). The San Diego River watershed is San Diego County's most populated watershed, and serves about 475,000 County residents. The majority of the population in the San Diego watershed is located in the western portion; however, the eastern portion of the watershed, which includes the headwaters of the San Diego River, is near the project area and is becoming urbanized.

Major water bodies in the San Diego River Watershed include the San Diego River, the San Vicente and El Capitan reservoirs, Lake Murray, Boulder Creek, and Santee Lakes. The average rainfall in the watershed ranges between 27.2 and 30.2 inches per year. The El Capitan Reservoir is located about 12 miles southwest of the project area and is a major water retention facility in San Diego County. Constructed in 1935, the reservoir is owned and operated by the City of San Diego and can hold 112,806.9 acre-feet of water when completely full (City of San Diego, 2010).

The project and surrounding areas are characterized by a variety of peaks, slopes, and topographic conditions. The highest point within the project area occurs at 5,993 feet (North Peak), near the southern portion of the project area. Runoff and drainage from the North Peak area drains into Lake Cuyamaca. The lowest elevations within the project site are about 2,800 feet.

Applicable Regulatory Requirements

Clean Water Act Section 402(p) NPDES Permits

The federal Water Pollution Control Act (also known as the Clean Water Act [CWA]) was amended in 1972 to prohibit discharge of any pollutant into Waters of the United States unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) Permit. Originally, the NPDES program focused on reducing pollutants from discharges from industrial process wastewater and municipal sewage treatment plants. In 1987, the CWA was amended to require the U.S. Environmental Protection Agency (EPA) to regulate storm water discharges through use of NPDES storm water permits. Section 402(p) of the CWA established a framework for regulating discharges under the NPDES program.

In California, the EPA has delegated authority to issue NPDES permits to the State Water Resources Control Board (SWRCB). The SWRCB and nine Regional Water Quality Control Boards (RWQCBs) carry out the regulation, protection, and administration of water quality in California. Each RWQCB is required to adopt a Water Quality Control Plan, or Basin Plan, that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface

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water, and local water quality conditions and problems. This Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters.

Regional Water Quality Control Board

The SWRCB and the RWQCB are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. The proposed project is situated within the jurisdiction of the San Diego Region of the RWQCB (Region 9). The San Diego RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction.

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of pollutant loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and non-point sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. The EPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

In January 2007, the RWQCB adopted Order 2007-0001, a municipal permit to all of the jurisdictions within San Diego County. This permit and the previous permit (Order 2001-01) have requirements of development projects to minimize or eliminate the impacts of development on water quality. This project is subject to the requirements of the municipal permit as it is implemented via the County's Regional Urban Runoff Management Plan. The specific requirements include the selection of appropriate Best Management Practices (BMPs) to avoid, prevent or reduce the pollutant loads into the storm drain system and the receiving waters.

California Water Code, Division 7 (Porter-Cologne Act)

The California Water Code contains provisions regulating water and its use. Division 7 establishes a program to protect water quality and beneficial uses of the state water resources including groundwater and surface water. The SWRCB and RWQCBs administer the program and are responsible for control of water quality. They establish waste discharge requirements, water quality control planning and monitoring, enforcement of discharge permits, and ground and surface water quality objectives.

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Clean Water Act Section 303(d) Surface Water

Section 303(d) of the 1972 CWA defines water quality standards as consisting of both the uses of surface waters (beneficial uses) and the water quality criteria applied to protect those uses (water quality objectives). State and regional water quality control boards have been charged with ensuring that beneficial uses and water quality objectives are established for all waters of the state.

With respect to the San Diego River watershed, the following beneficial uses have been identified in the San Diego Region Basin Plan for associated inland surface water, reservoirs and lakes:

Beneficial Use	Description
Municipal and Domestic Supply	Community, military, or individual water supply systems including, but not limited to, drinking water supply.
Agricultural Supply	Farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply	Industrial activities that do not depend primarily on water quality including, but not limited to mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oilwell re-pressurization.
Industrial Process Supply	Industrial activities that depend primarily on water quality.
Contact Water Recreation	Recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs.
Non-Contact Water Recreation	Recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Warm Freshwater Habitat	Warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.
Cold Freshwater Habitat	Cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.
Wildlife Habitat	Terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g. mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food resources.
Rare, Threatened, or Endangered Species	Habitats necessary, at least in part, for the survival and successful maintenance of plant and animal species established under state or federal law as rare, threatened, or endangered.
Hydropower Generation	Hydropower generation.

The federal CWA further requires that a list of water quality limited segments be developed to identify those water bodies that do not meet water quality standards even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that action plans in the form of TMDLs, be developed by regulatory agencies to improve water quality for these limited segments. On July 25, 2003, the USEPA gave final approval to

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California's 2002 Section 303(d) list of Water Quality Limited Segments and TMDLs priority schedule.

County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO)

The stated purposes of this ordinance are to protect water resources and to improve water quality by controlling the stormwater conveyance system and receiving waters; to cause the use of management practices by the County and its citizens that will reduce the adverse effects of polluted runoff discharges on waters of the state; to secure benefits from the use of stormwater as a resource; and to ensure the County is compliant with applicable state and federal law.

3.1.2.2 Analysis of project Effects and Determination as to Significance

This analysis is based on State CEQA Guidelines and the Guidelines for Determining Significance [for] Hydrology (2007b) and [for] Surface Water Quality (2007c) developed by the County of San Diego.

For each of the following subsections, CEQA and the County Guidelines for the Determining Significance for relevant issues are presented with the impact analysis following each guideline.

Guideline for the Determination of Significance:

The project would not conform to applicable Federal, State or local "Clean Water" statutes or regulations including but not limited to the Federal Water Pollution Control Act, California Porter-Cologne Water Quality Control Act, and the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance.

Analysis. Waste discharge requirements include compliance with BMPs, as required by the State's NPDES Permit; however, compliance is required only for projects that would disturb more than one acre of land. The proposed project involves the removal of DDD trees from private rural residential properties and would not result in ground disturbance below the surface on any participating parcels. Potential temporary ground disturbance by driving equipment over the site and piling wood chips and wood to be ground at the proposed wood debris staging site would be less than one acre, and the area that would be used at the wood debris staging site itself would be less than one acre; therefore, compliance with BMPs under the San Diego Municipal Storm Water Permit (SDRWQCB Order No. 2001-01) would not be required per the NPDES Permit. Because of the limited scope and size of the project, waste discharge requirements would not be required; therefore, project-related effects would be less than significant.

Guideline for the Determination of Significance:

The project would drain to a tributary of an impaired water body listed on the Clean Water Act Section 303(d) list, and will contribute substantial additional pollutant(s) for which the receiving water body is already impaired.

Analysis. According to the California 303(d) list published by the San Diego RWQCB in 2006, the San Diego River, Pine Valley Creek, and San Vicente Reservoir are listed as impaired water bodies

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due to point/nonpoint source pollutants, animal feeding, transient encampments, and unknown sources. The proposed project area is located more than 15 miles from Pine Valley Creek and the San Vicente Reservoir; however, the headwaters of the San Diego River occur within the project area. Due to the distance of Pine Valley Creek and the San Vicente Reservoir from the project area, any runoff that would be generated as a result of the project is not expected to affect these water bodies. Furthermore, discharges into the headwaters of the San Diego River are not anticipated as runoff generated by the project would be very minor (i.e., water use would be limited to water tenders for fire or dust control), would be from a clean source, would be discharged in a controlled manner so as not to cause erosion and downstream sedimentation, and likely would be contained completely within individual participating parcels and wood debris staging sites. As such, project-related effects are considered less than significant.

Guideline for the Determination of Significance:

The project would contribute pollution in excess of that allowed by applicable State or local water quality objectives or would cause or contribute to the degradation of beneficial uses.

Analysis. Project-related activities associated with tree removals would be limited both in scope and extent, as described in Chapter 1.0 (Section 1.2 – *Project Description*). Once the DDD trees are removed, chipped, and hauled away, there would not be any long-term or operational increases in discharges. As such, the project is not expected to affect water quality in the surrounding areas or degrade the above-listed beneficial uses for inland surface waters, reservoirs and lakes. Therefore, project-related water quality impacts to receiving waters would be less than significant.

Guideline for the Determination of Significance:

The project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

Analysis. The proposed project would not interfere with any drainage patterns on or near the project area that would affect existing streams or rivers. Also, the project would be required to comply with the California Forest Practice Rules (CFPR) for exempt harvest practices. Additionally, compliance with CFPR, Article 4 - *Harvesting Practices and Erosion Controls*, requires erosion control measures to be implemented when necessary. Therefore, potential impacts regarding erosion or siltation on- or offsite would be less than significant.

Guideline for the Determination of Significance:

The project would result in increased velocities and peak flow rates exiting the project site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site.

Analysis. As noted above, the proposed project would not interfere with any drainage patterns on or near the project area. The project would be required to comply with the CFPR for exempt harvest practices (see Chapter 1.0, Section 1.3.1 – *DDD Tree Removal Regulatory Compliance*). Furthermore,

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the proposed project would not result in the construction or alteration of an impervious surface at the DDD tree removal sites or the wood debris staging sites; therefore, the project would not result in changes in the amount or rate of runoff, nor would it result in an adverse effect to a drainage pattern or the exceedance of a stormwater drainage system capacity.

Guideline for the Determination of Significance:

Would drain to a tributary of a drinking water reservoir and will contribute substantially more pollutant(s) than would normally runoff from the project site under natural conditions.

Analysis. The proposed project would include the storage of 250 gallons of clean water on a water tender truck at each tree removal site as a safety measure in the event of a fire or other hazardous condition that would require the use of water, or for use in dust control. The use of this water supply would not represent a polluted runoff source because a) the water would be obtained from a clean potable water source, and b) the runoff associated use of such water would only contain localized soil, debris, and dust from tree removal activities. No dewatering activity or other potential source of polluted runoff is proposed as a result of the project; therefore, impacts would be less than significant.

3.1.2.3 Cumulative Impact Analysis

The potential occurrence of multiple tree removal activities in the same geographic area would not result in a cumulative hydrology or water quality impact because these activities individually would not result in substantial ground disturbance or the discharge of substantial amounts of water in association with tree removals. Furthermore, hydrology and water quality effects associated with other cumulative projects would be less than significant because each of these projects are each regulated individually and any land disturbance associated with the cumulative projects would be required to comply with a number of regulatory requirements related to hydrology and water quality, including applicable elements of the CWA, County storm water standards, NPDES, and RWQCB Basin Plan. Therefore, the proposed project would not contribute to a cumulative hydrology or water quality impact.

3.1.2.4 Significance of Impacts

Based upon the analysis presented in Section 3.1.2.2, the proposed project would have less than significant hydrology and water quality impacts; therefore, no mitigation is required.

Based upon the analysis presented in Section 3.1.2.3, no significant hydrology or water quality cumulative impacts were identified; therefore, no mitigation for cumulative impacts is required.

3.1.2.5 Conclusion

The proposed project would not result in the need for waste discharge requirements, would not further impair a water body or degrade a designated beneficial use, would not deplete groundwater supplies, and would not adversely affect or alter drainage patterns or runoff. There are no reasonably foreseeable projects in the immediate vicinity that could contribute to cumulative

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hydrology or water quality impacts. The proposed project is therefore not anticipated to result in any significant hydrology or water quality impacts.

3.2 Effects Found Not Significant During the Initial Study

The following environmental effects were found to be not significant during the Initial Study prepared for the project:

- Aesthetics
- Agricultural Resources
- Geology and Soils
- Hazards and hazardous Materials
- Land Use and Planning
- Mineral Resources
- Paleontological Resources
- Population and Housing
- Public Facilities
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

Please see Appendix A of the EIR for additional information on these environmental issue areas.